specifically, on the basis of a comparison result between the in-buffer data amount Dbuf and a (m+1)th transmission start threshold value Tth-(m+1), and a code (m+1) transmission start time Tstr-(m+1), the control portion 12 determines a data channel DCH through which transmission is to be started.

The (m+1)th transmission start threshold value Tth-(m+1) and the code(m+1) transmission start time Tstr-(m+1) are set to suitable values in accordance with a transmission environment. More specifically, in the case where a generation amount of packet data is large on average and in the case where piling up in the transmission buffer 11a is to be avoided, the (m+1)th transmission start threshold value Tth-(m+1) is set to a relatively small value, and the code (m+1) transmission start time Tstr-(m+1) is set to a relatively small value. In the case where a generation amount of packet data is small on average and in the case where an amount of interference itself is made small, the (m+1)th transmission start threshold value Tth-(m+1) is set to a relatively large value, and the code (m+1) transmission start time Tstr-(m+1) is set to a relatively large value.

When the multicode transmission is further described in detail, in response to the detection of the presence of packet data, the control portion 12 first starts transmission through the first data channel DCH1. Thereafter, in response to the timing when the in-buffer data amount Dbuf has been not smaller

than a code 2 transmission start threshold value Tth-2 throughout a predetermined code 2 transmission start time Tstr-2, the control portion 12 starts transmission through the second data channel DCH2.

Further, in response to the timing when the in-buffer data amount Dbuf has been not smaller than a code 3 transmission start threshold value Tth-3 larger than the code 2 transmission start threshold value Tth-2 throughout a predetermined code 3 transmission start time Tstr-3, the control portion 12 starts transmission through the third data channel DCH3. Furthermore, in response to the timing when the in-buffer data amount Dbuf has been not smaller than a code 4 transmission start threshold value Tth-4 larger than the code 3 transmission start threshold value Tth-3 throughout a predetermined code 4 transmission start time Tstr-4, the control portion 12 starts transmission through the fourth data channel DCH4.

Like this, since the transmission start timing is determined on the basis of the in-buffer data amount Dbuf, a delay width from the transmission start of another data channel becomes relatively random. More specifically, as shown in Fig. 10, a delay width between the first data channel DCH1 and the second data channel DCH2 is one frame, a delay width between the second data channel DCH2 and the third data channel DCH3 is three frames, and a delay width between the third data channel DCH3 and the fourth data channel DCH4 is two frames.

As described above, according to this embodiment 4, every time the in-buffer data amount Dbuf has been not smaller than the predetermined transmission start threshold value Tth throughout the predetermined transmission start time Tstr, the transmission relating to the respective data channel DCH is started. Accordingly, the transmission start timing of the respective data channel DCH is shifted. Thus, similarly to the embodiment 1, since the closed loop transmission power control can be excellently carried out, it is possible to prevent deterioration of transmission quality between the mobile station 1 relating to another user and the base station 2.

Further, in the case where the in-buffer data amount Dbuf is small, all data channels DCH are not used. For example, in the case where the in-buffer data amount Dbuf does not exceed the code 4 transmission start threshold value Tth-4, only the three data channels DCH1 to DCH3 are used among the four data channels DCH1 to DCH4 assigned to one call. Accordingly, the abrupt increase of transmission power can be suppressed as compared with the case where all the data channels DCH are used. Thus, the abrupt increase of interference power to another user can be suppressed as compared with the case where all the data channels DCH are used.

Embodiment 5

Fig. 11 is a flowchart for explaining a transmission